

REMARKS

Claims 1-36 are pending in the present application. In the Office Action, claims 1-4, 7-17, 19-24, 26-29, 31-34, and 36 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Bary (U.S. Patent Application Publication No. 2003/0117893) in view of Stephens (U.S. Patent No. 6,430,105). The Examiner's rejections are respectfully traversed.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. That is, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). A recent Federal Circuit case emphasizes that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35.

Bary describes a conventional ocean-bottom cable type seismic prospecting method that uses a seismic cable or streamer laid on the sea bottom. See Bary, paragraph [0004]. Bary also describes an alternative seismic prospecting method in which seismic data acquisition units are launched from the surface and descend through the water column to stick into the sea bottom. The seismic data acquisition units may include inclinometers for measuring their orientation and compasses. See Bary, paragraphs [0008-0009]. However, as admitted by the Examiner, the seismic data acquisition units described by Bary are not coupled to an ocean-bottom cable.

Stephens describes the use of ocean-bottom cables in seismic surveying. Stephens describes sensor units 1 that may be attached to an ocean-bottom cable. Each of the sensor units 1 includes three accelerometers 5, 6, 7 that may be used to measure steady-state accelerations related to the acceleration of gravity. See Stephens, col. 4, ll. 15-21.

The Examiner alleges that it would be obvious to place the sensor units described by Bary onto an ocean-bottom cable, such as the cable described by Stephens. In particular, the Examiner alleges that it would have been obvious to modify Bary to include placing the sensor units into a seismic cable as taught by Stephens instead of having them as individual units in order to be able to lay down the sensor units on the sea floor in a desired array from a survey vessel. However, the Examiner has provided no support for this conclusory statement.

To the contrary, Applicants respectfully submit that the cited references contain no suggestion or motivation for the Examiner's proposed combination and modification of the prior art. In particular, there is no suggestion or motivation in the prior art to couple the sensor units described by Bary to an ocean-bottom cable, at least in part because the sensor units are intended to descend freely through the water and not to be impeded by attachment to a seismic cable. Furthermore, neither Bary nor Stephens provides any teaching that the sensor units described by Bary should be coupled to an ocean-bottom cable in order to be able to lay down the sensor units on the sea floor in a desired array from a survey vessel, as suggested by the Examiner.

Furthermore, even if the elements of Bary and Stephens are combined in the manner suggested by the Examiner (and Applicants reiterate that the prior art contains no suggestion or motivation to do so), the proposed combination still fails to describe or suggest all the limitations of the claimed invention. In particular, neither of the cited references provide any suggestion or

motivation for determining whether the at least one ocean bottom cable has moved from the at least one initial inclination and the at least one current inclination.

As discussed above, Bary states that the seismic acquisition device should be shaped to descend, under the effect of gravity, to the bottom of the water mass and to enter the bottom so as to couple the seismic receivers with the underground formation. See Bary, paragraph [0029]. Applicants respectfully submit that the person of ordinary skill in the art would understand that the seismic data acquisition device described by Bary is intended to be buried in the sea bottom and therefore would not be expected to move during the seismic data acquisition process and it would therefore be unnecessary to determine whether or not the seismic acquisition device has moved.

Stephens also teaches that the accelerometers 5, 6, 7 are to be used to determine the steady-state acceleration proximate the sensor 1 so that the steady-state acceleration due to gravity may be separated from the time varying signals due to seismic vibrations. See Stephens, col. 4, ll. 31-35. Thus, Stephens also assumes that the seismic sensors 1, as well as the cable 2, are in the steady-state, i.e., they are not moving. Thus, Stephens teaches that it would be unnecessary to determine whether or not the seismic sensors or cables have moved.

For at least the aforementioned reasons, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Bary and Stephens, either alone or in combination. Applicants request that the Examiner's rejections of claims 1-4, 7-17, 19-24, 26-29, 32-34, and 36 under 35 U.S.C. 103(a) be withdrawn.

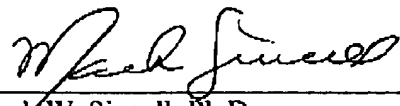
In the Office Action, the Examiner indicated that claims 5-6, 18, 25, 30, and 35 contain allowable subject matter but that these claims were objected to as being dependent upon a

rejected base claim. Pursuant to the above arguments, Applicants respectfully submit that claims 5-6, 18, 25, 30, and 35 are in condition for allowance.

For the aforementioned reasons, it is respectfully submitted that all claims pending in the present application are in condition for allowance. The Examiner is invited to contact the undersigned at (713) 934-4052 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

Date: 1/31/06


Mark W. Sincell, Ph.D.
Reg. No. 52,226
Williams Morgan & Amerson, P.C.
10333 Richmond Avenue, Suite 1100
Houston, TX 77042
(713) 934-7000
(713) 934-7011 (Fax)

AGENT FOR APPLICANTS